United States Marine Corps Systems Command
Program Manager
Combat Tracked Vehicles

Presented By
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United States Marine Corps Systems Command
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AAV7 HISTORY

1972 - 1975	LVT7 Fielded
1983 - 1986	LVT7A1 Service Life Extension Program (SLEP)
1987	Redesignated AAV7A1 to better reflect mission
1987 - 1999	Product Improvement Program (PIP) - Upgrade Lethality, Survivability and Communications
1999 – 2003	AAV7A1 Vehicle Reliability, Availability and Maintainability/Rebuild to Standard Program (RAM/RS)

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AAV7A1 Mission

"To maneuver the surface assault elements of the landing force and their equipment from assault shipping during amphibious operations to inland objectives and to conduct mechanized operations and related combat support in subsequent operations ashore."

Concept of Employment

AAVs are employed during amphibious assaults, during the conduct of river crossings as components of the mechanized task force and during other special operations ashore. When properly employed, AAVs are effective in operations after dark. They are also effective in certain types of swamps, selected arctic terrain, in hilly and mountainous areas, during desert operations and on majority of the worlds rough terrain. Employment is limited in extreme mountainous, jungle areas, extremely high surf, certain types of mud flats, etc. The primary role of the AAVs is as the principal tactical ground transport asset to the ground combat commander in support of mechanized operations. If assets permit, the AAV may include employment as logistics and engineer support vehicles.

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AAV7A1 RAM/RS Capabilities

Combat Loaded Weight: 58,105 lbs. (EAAK, Crew (3), Fuel, OEM, Ammo)

Loaded capacity: 21 combat equipped troops (@285 lbs) or 10,000 lbs of cargo

Performance:

- **Cruising speed (land) - 20-30 mph, range 200 miles, Max speed 45 mph**
- **Cruising speed (water)- 6 mph, range 6-7 hours at 2600 RPM, Max speed 8.2 mph**
- **Maximum speed reverse - 12 mph land, 4.5 mph water**
- **Minimum turning radius - Pivot, land and in water**
- **Maximum forward grade - 60% slope, cargo loaded**
- **Maximum side slope - 40%, cargo loaded**
- **Obstacle Ability - 8 foot trench, 3 foot vertical wall**
- **Surf Ability - negotiate 6 foot plunging surf and survive 10 foot plunging surf**

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AAV7A1 FOV Vehicle Descriptions

AAVP7A1 Description - The Personnel Variant of the AAV7A1 FOV is an armored assault amphibious full-tracked landing vehicle. The vehicle carries troops in water operations from ship to shore, through rough water and surf zone. It carries troops to inland objectives after ashore.

AAVC7A1 Description - The Command Variant of the AAV7A1 FOV provides a mobile command post for communications with subordinate adjacent, and senior infantry units or supported units as well as with supporting arms and logistics support units. It provides work stations for 10 personnel; communications equipment is located on the port side and staff equipment on the starboard side.

AAVR7A1 Description - The Recovery Variant of the AAV7A1 FOV provides the AAV unit commander a mobile and complete maintenance shop tracks.
Enables vehicle recovery and maintenance functions to be performed in the field through third echelon.

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AAV7A1 RAM/RS Program Objective

Increase the reliability and maintainability of the vehicles by replacing the current engine and suspension with more adequately matched Bradley Fighting Vehicle derivative components and an improved transmission. The Rebuild portion increases reliability by bringing the vehicle to original performance requirements. The overall result of the RAM/RS is to return performance to original specifications, reduce the operational and maintenance costs, and continue the combat utility/readiness of the AAV7A1 until it is replaced.

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RAM R/S PROGRAM BACKROUND

- CMC approved as ACAT III Program
- MS III approved
  - Approved Acquisition Objective 680
  - $ 363 million over 4 years
- IOC achieved
- FOC planned

HIGHLIGHTS

- 525 vehicles have been fielded to date
- 1999 David A Packard Award Recipient
- OPFOR readiness increased from 83% to 94%
- MTBF improved approx. 3 times

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Reliability, Availability, Maintainability, Safety, Configuration, Operations and Maintenance Initiatives

Bradley Suspension: Integrates the U.S. Army's Bradley Fighting Vehicle suspension onto the USMC's Assault Amphibious Vehicle.

Purpose: Provide "technically sound", cost effective hardware solution to one of the top five Operations and Support (O&S) cost drivers for the AAV7A1. Additionally reducing the fleet maintenance burden associated with the current suspension. Satisfies the fleet commander's priority listing as the most desired modification to the AAV.

Related Operational Benefit: Compensate for the vehicular weight growth from 40,000 to 56,000 pounds. Improves ground mobility aspects of AAV, such as cross country speed, ride quality and ground clearance. Maximum logistics commonality with the Army's Bradley fleet, i.e. approximately 5,000 vehicles.

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RELIABILITY, AVAILABILITY, MAINTAINABILITY, SAFETY, CONFIGURATION, OPERATIONS AND MAINTENANCE INITIATIVES (RAM/RS)

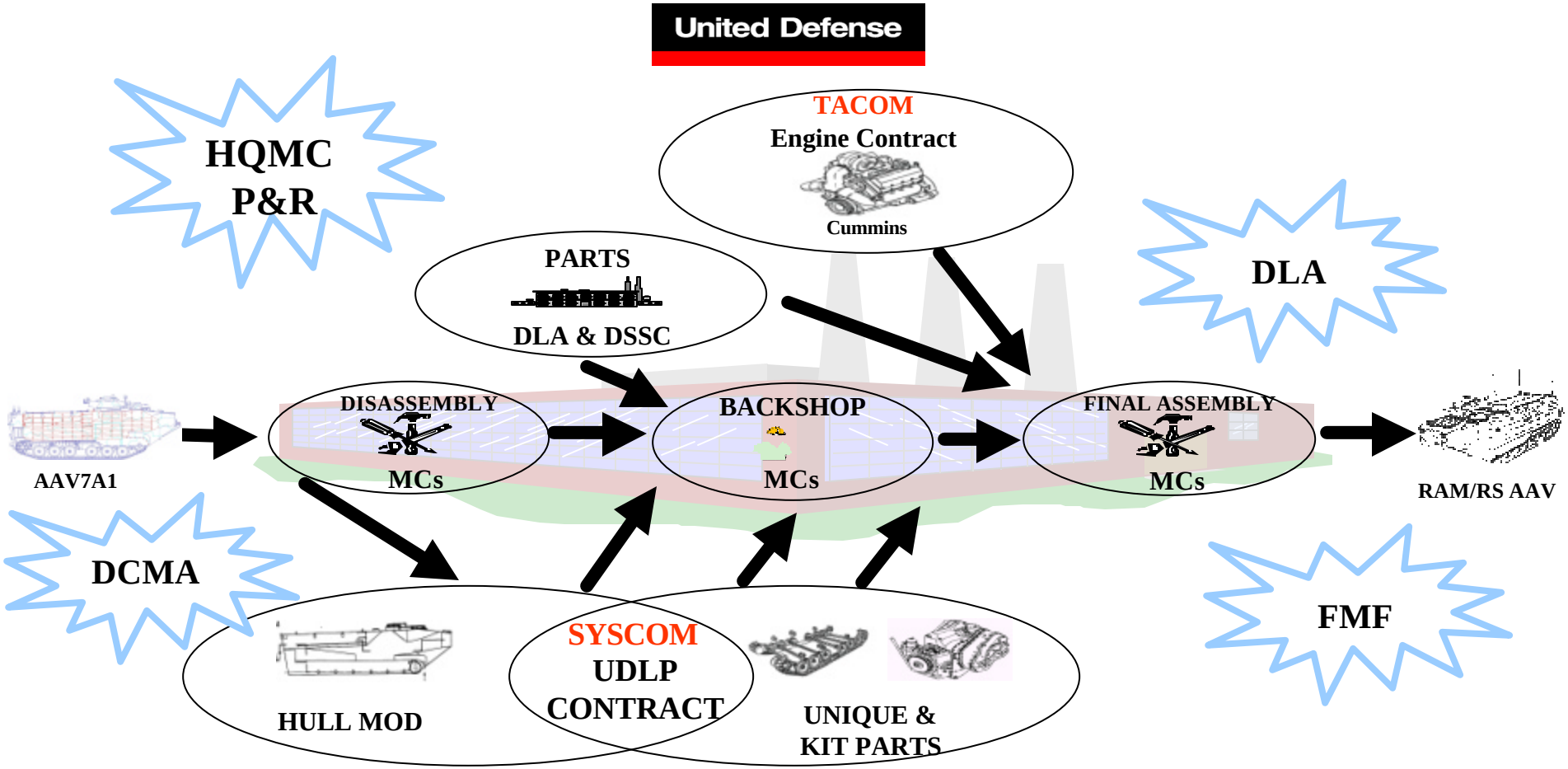
Bradley Derivative Engine: Integrates the Bradley Derivative Engine by Cummins into the USMC Assault Amphibious Vehicle.

Purpose: Provide "technically sound", cost effective hardware solution to one of the top five Operations and Support (O&S) cost drivers for the AAV7A1. Additionally reducing the fleet maintenance burden associated with the current power-pack. Satisfies the fleet commander's priority listing as the most desired modification to the AAV.

Related Operational Benefit: The additional installed horsepower will compensate for the AAV's eroding horsepower to weight ratio resulting from the vehicular weight growth. This power reserve improves cross country mobility, acceleration and reduces thermal cyclic loading of transmission's torque converter.

Acquisition Strategy Overview

RAM/RS
ENTERPRISE SYSTEM



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QUESTIONS ?